

[HOSPITAL]

**CRITICAL RESOURCE SHORTAGE
RESPONSE PLAN FOR [HOSPITAL]**

September 14, 2009



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INTRODUCTION AND INSTRUCTIONS FOR USE

During a large-scale emergency or disaster, such as an influenza pandemic, [hospital's] ability to continue providing care will be challenged as a result of a larger than normal influx of patients, shortages of critical resources, and higher levels of staff absenteeism. It is impossible to predict the exact magnitude of each of these factors. However, each of them will occur and, in combination, will make it impossible to continue to provide care the same way that it is provided in “normal” times. This scarcity of resources, including staff, during a disaster or emergency is referred to as a critical resource shortage event (CRSE). It is imperative to plan for how [hospital] will respond to these resource scarcities before the emergency or disaster giving rise to the CRSE occurs. This Critical Resource Shortage Response Plan (CRSRP) provides the infrastructure and process that [hospital] will use to respond to these CRSEs.

This CRSRP includes the following components:

- ◆ An ethical framework which serves as the foundation for the other portions of the CRSRP
- ◆ A basic operational framework and infrastructure on which specific protocols will be built
- ◆ A Protocol for the allocation of inpatient beds during a CRSE
- ◆ A Protocol for the modification of Registered Respiratory Therapists’ workflow during a CRSE
- ◆ An infrastructure for the development of Ad Hoc Protocols during a CRSE

CDC Essential Services Grant Project

The Virginia Department of Health received an Essential Services Grant #EHS25VA from the Centers for Disease Control and Prevention (CDC) to conduct a trial implementation of the *Critical Resource Shortage Planning Guide* at Sentara Norfolk General Hospital (SNGH) in Norfolk, Virginia. Troutman Sanders LLP served as the project lead and facilitator for the grant. A multi-disciplinary group of dedicated clinical and non-clinical staff from SNGH (the Critical Resource Advisory Group or CRAG) participated in numerous meetings from December 2008 to August 2009 to develop the content of this CRSRP. A list of the CRAG active participants is included as Appendix A. We wish to gratefully acknowledge the hard work and dedication of all these participants for their outstanding contributions in this project.

This CRSRP is the result of the work completed pursuant to the CDC grant. It is intended to serve as an example of what a CRSRP might look like for any hospital that followed the *Planning Guide* framework. No two hospitals are identical, and the decisions that each hospital reaches about how best to respond to CRSEs will vary. This means that the exact content of each hospital CRSRP will be different. However, this example may be helpful to the Convener and the Implementation Team as indicative of how a final product could look. It is important to note that the CDC grant concentrated on a trial implementation of Sections 3 (Ethical Framework), 4 (Operational Framework), 5 (Development of Protocols) and 6 (Infrastructure to

develop ad hoc Protocols intra-event) of the *Planning Guide*. Section 1 of the *Planning Guide*, identifying a Convener and creating an Implementation Team, was truncated for grant purposes. Section 2 of the *Planning Guide*, conducting a Critical Resource Vulnerability Analysis, was skipped because SNGH had already conducted the function equivalent of this analysis. Sections 7 (Coordination with other HMDOs), 8 (*Planning Guide* evaluation and maintenance), 9 (required stakeholder approvals) and 10 (communications plans) of the *Planning Guide* were not specifically included in this CRSRP, although each is addressed in detail in the *Implementation Guide* and the Implementation Aids. This means that no hospital should simply adopt this CRSRP without considering what provisions it must include, if any, to address these other sections of the *Planning Guide*.

It is also important to note that while SNGH served as a trial implementation site for the grant, it has not adopted the CRSRP that was developed as formal policy. It was not the purpose of the grant to develop specific policies for SNGH but rather to test and modify the *Planning Guide* and develop specific tools to assist with its implementation at any hospital.

ETHICAL FRAMEWORK

There is a relative consensus across the country that healthcare providers will use their best efforts to appropriately allocate scarce resources during a CRSE. There is much less consensus, if any, on exactly what “appropriately” means and how healthcare providers will make this decision. Modifying standards of care in times of severe resource shortages must be done in an ethically valid way if one hopes to obtain “buy in” from patients, families, the community, and staff. [hospital] developed this guiding ethical framework to make these very complicated decisions in a way that most will agree is ethically acceptable. This ethical framework serves as the foundation for the development and implementation of the operational framework, the resource-specific protocols, and the ad hoc protocol development infrastructure.

Ethical Principles

[Hospital’s] ethical framework is built upon a set of ethical principles that will guide its response to a CRSE. The CRAG analyzed ethical principles and values identified by the University of Toronto to guide decision making during an influenza pandemic.¹ All of these ethical principles are important. Recognizing that some of these principles may conflict and it may be difficult to satisfy all of them in the midst of a CRSE, however, the CRAG prioritized these ethical principles as follows:

- | <u>High Priority</u> | <u>Medium Priority</u> | <u>Low Priority</u> |
|---|---|---|
| <ul style="list-style-type: none">• Protection of the public from harm• Duty to provide care• Trust• Stewardship | <ul style="list-style-type: none">• Proportionality• Reciprocity• Reasonable• Accountable• Responsive | <ul style="list-style-type: none">• Individual Liberty• Privacy• Equity• Solidarity• Open and Transparent |

When making resource allocation decisions during a CRSE, [hospital] should strive to satisfy at least all of the high priority ethical principles.

Ethical Goal

Based on the ethical principles, the CRAG identified an ethical “goal” for resource allocation decisions made at [hospital]. The “goal” is the ultimate objective of any resource allocation protocol. The CRAG adopted the commonly used goal of doing the “greatest good for the greatest number.” While this goal has been widely used in recent “altered standards of care” literature, it is typically not explicitly defined. The CRAG determined that, at [hospital], doing

¹ For more information on these values, see University of Toronto Joint Centre for Bioethics Pandemic Influenza Working Group. (Nov 2005). “Stand on Guard for Thee: Ethical considerations in preparedness planning for pandemic influenza.” Available online at: http://www.jointcentreforbioethics.ca/people/documents/upshur_stand_guard.pdf (last visited May 5, 2009).

the “greatest good for the greatest number” means saving the greatest number of lives. The CRAG did acknowledge that other factors, such as saving the greatest number of life years, the greatest number of quality life years, and doing the greatest societal good are important, to some extent, in making allocation decisions. These metrics, however, are difficult to quantify and implement objectively. As a result, **the ultimate goal of critical resource protocols at [hospital] should be saving the greatest number of lives.**

Withdrawal and Withholding of Resources

During a CRSE, hospitals will need to decide if it is appropriate to withdraw a critical resource from one patient to give to another patient. To some extent, providers make this decision in “normal” times when care is deemed “futile” but this is usually a laborious process. During a CRSE, however, providers may be forced to make a decision about withdrawal before the care is deemed futile and under very stressful conditions. **The CRAG determined [hospital] should allow the withdrawal of a resource from a patient to give the resource to another patient who will derive greater benefit from the resource.** The exact circumstances under which withdrawal may be appropriate will be further delineated in the resource-specific allocation protocols.

Additionally, hospitals need to decide if it is appropriate to withhold resources from current patients to conserve for future patients. This issue is more complex because the future is unpredictable. As a result, **the CRAG determined that [hospital] should not allow resources to be withheld from a current patient to conserve for an unknown future patient.** However, the CRAG recognized that as resources become more scarce, the clinical criteria upon which resources will be allocated may become stricter resulting in fewer patients receiving the resource.

Inappropriate Exclusion Criteria

Resource-specific protocols may include blanket exclusion criteria that will be used to exclude patients from consideration for receiving a critical resource. Some potential exclusion criteria can be considered controversial and may be deemed inappropriate. After reviewing exclusion criteria proposed in recent critical resource shortage planning guidance, the CRAG determined the following criteria are inappropriate factors to consider when allocating scarce resources and will not be used in any [hospital] resource-specific protocols:

- ◆ Ability to pay
- ◆ Religion
- ◆ Gender
- ◆ Race

OPERATIONAL FRAMEWORK

An effective response to a CRSE requires an infrastructure that supports and aids the implementation of a CRSRP. Without this consistent operational infrastructure, [hospital] will not be able to successfully develop or implement resource-specific protocols, which may render them moot. The CRAG developed a basic operational infrastructure that will support the consistent development, implementation and operationalization of the CRSRP and associated resource-specific protocols. Each resource-specific protocol presents separate implementation and operational challenges; therefore, additional operational details are provided in the individual protocols.

Activation of Protocols

After an emergency or disaster event occurs, resource levels will begin to decrease at the same time as demand for those resources increases. There may come a point in time, depending on the event, when [hospital] is “surged out” and needs to implement a resource-specific protocol(s). Identifying the appropriate moment for activating the protocol(s) can be difficult. Because the consequences of implementing the protocol(s) are so severe, it is important that implementation be done in a well-thought out process that will provide a certain degree of comfort for the providers who will be operating under these protocols.

Throughout an emergency or disaster, Incident Command (IC) will monitor the resource situation at [hospital] through surveillance and reporting mechanisms as described in [hospital]’s Emergency Operations Plan (EOP). When a shortage of a critical resource is identified, the department responsible for managing this resource will evaluate the resource situation, investigate methods of responding to this shortage through surge plans, and ultimately report the imminent shortage to IC.² The report to IC should include detailed information in the following categories:

- ◆ Status: Current inventory and demand for the resource in the hospital. Does demand currently exceed the supply?
- ◆ Forecast: Expected future inventory and demand for the resource in the hospital. At what point will demand exceed supply?
- ◆ Duration: How long will demand exceed supply? Expectations for additional inventory of the resource or decrease in demand for the resource in the near future.
- ◆ Magnitude: To what extent does or will demand exceed supply? What is the “burn rate” of the resource?
- ◆ Mitigation: Options that have been evaluated for obtaining additional supply of the resource or explanation of surge efforts that have already been taken. Information about future options or lack thereof for receiving additional supply of the resource.

² The relevant department might be materials management, nursing or a clinical department depending on the resource.

Departments should not wait until they are completely out of a resource before contacting IC. Shortages should be reported as quickly as possible to allow for an appropriate response to the threatened or current CRSE.

IC will evaluate the information provided by the department to determine an appropriate response to the shortage. IC will likely already be aware of the developing situation based on standard reports from the department. This standard reporting will allow IC to quickly evaluate the situation and determine its response. If IC determines there is a need to activate a resource-specific protocol, it will do so. If a resource-specific protocol does not exist for the critical resource in question, IC should determine whether one needs to be developed through the Ad Hoc Infrastructure provided in this CRSRP.

Maintenance of Protocols

After IC has activated a resource-specific protocol, [hospital] will need to continually monitor the situation and make appropriate changes to the protocol to ensure the most effective response. This process includes three functions:

- (i) data collection from internal and external sources, including resource inventory and outcomes effectiveness;
- (ii) data analysis to determine what revisions, if any, should be made to the protocol(s); and
- (iii) dissemination of the revised protocol(s) to hospital staff and physicians.

Re-assessment should be done often enough to ensure an appropriate response to the current situation, but not so often that it becomes burdensome for the group tasked with re-assessment. The appropriate re-assessment cycle may differ based on the type of CRSE.

Termination of Protocols

Terminating a resource-specific protocol(s) may be more difficult than activating it. Determining the appropriate time to terminate the protocol(s) is a delicate balance between “too soon” and “not soon enough.” At [hospital], the decision to terminate the protocol(s) will be made by the same person who authorized the activation of the protocol(s) – the Hospital Incident Commander. The re-assessment process discussed above will provide the information needed for IC to determine a downward trend in the demand for a resource or an upward trend in the supply of a resource. Once these trends are established, IC will terminate the protocol(s) and the hospital will return to the normal operations and use of the resource.

Process for Making Allocation Decisions

Once a protocol(s) has been activated at [hospital], an individual or committee will be tasked with implementing the protocol and making allocation decisions accordingly. The ethical goal of [hospital] during a CRSE is to allocate resources so that they do the greatest good for the greatest number by saving the most lives. Because these allocation decisions will be difficult to make, the CRAG developed a central decision making construct which relies on Triage Officers and Triage Committees to make allocation decisions. These Officers and Committees will be better suited than individual attending physicians to make ethically appropriate and consistent allocation decisions because they can maintain awareness of the overall supply and demand situation at [hospital] when evaluating individual patients' needs for a critical resource.

Presented below is the overall decision making construct that will be used at [hospital]. Each resource-specific protocol includes further details regarding who will fill these roles, what criteria will be used to make allocation decisions, and how this process will be operationalized for the particular critical resource.

Step #1 – For each patient, a triage officer will make an initial determination of eligibility to receive the specific critical resource based on medical judgment and any applicable inclusion or exclusion criteria. Multiple triage officers will be in place at all times in order to cover the entire hospital. Each triage officer will have the authority to act independently to determine whether a patient is eligible for the critical resource based on the patient's condition and any relevant inclusion or exclusion criteria as identified in the resource specific allocation protocol. If a triage officer's decision is challenged, the triage officer will consult with the other triage officers on duty at that time and they will reach a consensus about the patient.

Step #2 – Once patients have been identified as eligible for the resource, a triage committee will prioritize all eligible patients for the resource in question and make allocation decisions. There will be a separate committee for each critical resource. The members of the triage committee will coordinate and collaborate with each other to make the decisions as a group. As part of their prioritization of which patients will receive the resource, the triage committee will also be responsible for determining whether the resource should be withdrawn from a patient and re-allocated to another patient who is more likely to receive benefit.

The CRAG identified the specific authorities that should be granted to the triage officers and triage committees as follows:

Authority	Triage Officer	Triage Committee
Recommend resource allocation	X	X
Withdraw resources from patients and re-allocate		X
Research/monitor outcomes related to the resource-specific protocol		X
Situational awareness (related to supply of and demand for the resource)	X	X
Re-assess and modify the resource-specific protocol		X
Require physicians and staff to provide care according to the resource-specific protocol	X	X
Reprimand non-compliant providers		X

Non-Compliant Providers

Once a protocol(s) has been activated, there may be providers who do not comply with the protocol(s) and the decisions made by the triage officer/committee. Non-compliance will undermine the authority and success of the protocol(s). The CRAG agreed that protocols need to incorporate an enforcement mechanism strong enough to make providers comply so that the protocols can be successfully implemented during an event. Education will be crucial to reducing non-compliance and ensuring that all hospital staff (physician and non-physician) are aware of the consequences of non-compliance. Education should also reinforce that during an event, all providers will be required to abide by requirements of the resource-specific protocol(s).

Alternative Resources and Palliative Care

During a CRSE, there will be patients who do not receive the critical resource in question. The CRAG unanimously agreed that [hospital] has a duty to provide some level of care to these patients. Alternative resources and methods for delivery (e.g., bolus insulin rather than an insulin drip), will be the preferred course for these patients so long as the alternative resource provides a measurable improvement in the patient's condition. The CRAG agreed that [hospital] will not expend resources on futile care during a CRSE.

If alternative resources and methods for delivery are not available options, patients who do not receive the critical resource should receive palliative care. The goals of palliative care during a CRSE should be comfort, support, compassion, and helping the patients to not feel alone. Non-clinical staff can provide non-clinical care, such as compassion and support, with minimal training requirements. Clinical palliative care measures may require additional training for providers who are unaccustomed to providing this type of care. Due to the wide spectrum of

palliative care, it is likely that the training can be put to use in a provider's daily activities even outside of a CRSE; therefore, it would be beneficial to begin this training now.

Communication

Public Information Officers already have standard processes for disseminating information to hospital physicians, staff, and the public and are in the process of developing key messages for use during specific emergencies or disasters.³ This pre-planning will allow for efficient communication during the actual event.

Education regarding this CRSRP should begin now. Providing consistent, regular education about the CRSRP and associated protocols now will allow the hospital staff, physicians, and the general public time to understand the ramifications of a CRSE and adjust their expectations accordingly. This will aid in the effective implementation of the CRSRP during an event.

³ For more information regarding the communication plan and these key CRSE messages, please contact the PIO office at [hospital].

PROTOCOL FOR THE ALLOCATION OF INPATIENT BEDS AT [HOSPITAL] DURING A CRITICAL RESOURCE SHORTAGE EVENT

Overview

During a large-scale emergency or disaster such as an influenza pandemic, there will likely be a higher than normal demand for inpatient hospital beds and a high level of staff absenteeism. Combined, these two factors will stress the ability of [hospital] to admit patients consistent with current practices. This scarcity of resources is referred to as a critical resource shortage event (CRSE). The Bed Subcommittee of the Critical Resource Advisory Group (CRAG) at [hospital] developed this “Protocol for the Allocation of Inpatient Admission at [Hospital] During a Critical Resource Shortage Event” (“Admission Protocol”) to provide a process for allocating inpatient hospital beds in an ethical and consistent manner during an influenza pandemic or other similar CRSE.

Activation of This Admission Protocol

The decision to activate this Admission Protocol should not be made lightly. Activation of this Admission Protocol should, therefore, be done only after implementation of surge plans have been exhausted. Once all surge plans have been implemented and demand for admission continues to overwhelm supply, a representative from the Bed Tower will communicate the need to activate this Admission Protocol to Incident Command. Incident Command will then evaluate the overall resource situation and the Admission Protocol. If warranted, the Incident Commander will activate this Admission Protocol and communicate this activation to all physicians and staff.

Allocation Process

The ethical goal of [hospital] during a CRSE is to allocate resources to do the greatest good for the greatest number by saving the most lives. Allocation decisions should be made to further this goal. This Admission Protocol includes the activation of a central decision making construct through the use of Triage Officers and a Triage Committee, consistent with [hospital’s] operational framework. This Triage Committee will be better suited than individual attending physicians to make ethical and consistent allocation decisions because they can maintain awareness of the overall supply and demand situation at [hospital] when evaluating individual patients for inpatient admission.

ED Process⁴

Patients will receive initial stabilization in the emergency department (ED). One ED physician will be designated as the Triage Officer for each shift. As each ED Attending treats their patients and determines they require admission, they will send notification to the Triage Officer. The Triage Officer will then evaluate these patients (on average within four hours of their arrival) and determine whether they qualify for inpatient admission based on [hospital's] inclusion and exclusion criteria (refer to lists below). The Triage Officer will assign the patient to one of the three following categories:

- ◆ Recommend admission: if patient meets at least one of the inclusion criteria and does not meet any of the exclusion criteria
- ◆ Evaluate for alternative care options: if the patient meets at least one of the exclusion criteria or does not meet any of the inclusion criteria
- ◆ Discharge home: if hospital admission is not medically necessary

For those patients with recommended admission, an immediate notification through electronic medical record (if available) or phone/pager will be sent to the Triage Committee to evaluate this patient for inpatient admission.

Inpatient Process

Once a patient is admitted, they will need to be re-evaluated on a regular basis by the Triage Committee to determine whether they should remain at their current level of care. Triage Officers will be used to help gather the information needed by the Triage Committee to re-evaluate inpatients. On each shift, one physician will be designated as the Triage Officer for each unit or group of units (e.g., ICUs). Each unit will designate a hospitalist, intensivist or other physician specialist, as appropriate as the Triage Officer for their patient population. The Triage Officer will evaluate each patient in the units to which he has been assigned every 12 hours and will input the metrics listed below into the electronic medical record. This information will be used to populate the Inpatient Workbench Report which is delivered to the Triage Committee for evaluation.

- ◆ Patient's General Status Trend: better, same, or worse
- ◆ Ambulatory vs. non-ambulatory
- ◆ Does patient meet any exclusion criteria?: yes or no
- ◆ Does patient continue to meet inclusion criteria?: yes or no
- ◆ Re-evaluation period by Triage Officer (if patient requires a shorter or longer re-evaluation period than the standard 12 hours)
- ◆ Expected discharge date
- ◆ Recommendation for patient disposition:

⁴ This Protocol only includes a process for evaluating for admission those patients who have already received a Medical Screening Exam (MSE) and stabilization as required under EMTALA. Information is not provided for the initial ED triage process undertaken at the time a patient presents for care.

- Immediate discharge for improved or futile patients. (Note: These patients require no further evaluation by the Triage Committee.)
- Transfer to a higher level of care is recommended
- Transfer to a lower level of care is acceptable if required by CRSE
- Remain same

If there are drastic changes in a patient's status between these standard 12 hour evaluations, the staff on the unit should notify the Triage Officer. He will perform an emergent evaluation and immediately deliver this information to the Triage Committee for a decision.

Triage Committee Process

Triage Committee will be asked to evaluate large amounts of data for many patients during an extremely stressful time. [Hospital] recognizes that this work is very demanding and has decided to limit each Triage Committee to a maximum of a 6 hour shift. This does not align exactly with the hospital's standard IC shift but is needed to keep the Triage Committee members from becoming exhausted. Each shift, there will be two distinct Triage Committees; one dedicated to evaluating ED patients for initial admission and another dedicated to evaluating inpatients for continued admission and making necessary admission allocation decisions. There will be twelve separate Triage Committees to allow for rotation and time off for the members of the Triage Committees. Each Triage Committee will be comprised of two physicians (ideally one medical and one surgical), two nurses (preferably at least one of which is a nurse manager), and one clinical administration representative. Each Triage Committee should include at least one member who has been trained on critical resource shortage response and can serve as the facilitator for the group. Additionally, each Triage Committee should identify one member to keep the Committee on track regarding their ethical values during discussion. A support staff individual will also be assigned to work with each Triage Committee to record decisions made by the committee and coordinate communication with the departments regarding admission, transfer, and discharge of patients. Even though ethics, chaplaincy and risk management are not directly represented on each Triage Committee, they are available for consult as needed.

Every 6 hour(s), the Triage Committee will pull the current Inpatient Workbench Report from the electronic medical record and evaluate the patient disposition recommendations made by the Triage Officers. The Triage Committee will determine a disposition for each inpatient listed on the Inpatient Workbench Report based on the prioritization criteria (refer to list below). This disposition will identify: (i) whether the patient should remain in their current care pod; (ii) whether they should be transferred to another care pod, and if so, which pod; or (iii) whether the patient should be discharged.

The Triage Committee should first evaluate those patients designated as "worse" by the Triage Officers to determine if they require a higher level of care. Then the Triage Committee should evaluate those patients designated as "better" by the Triage Officers to determine if they are well enough to transfer to a lower level of care or be discharged home. Finally, the Triage Committee should evaluate those patients designated as "same" by the Triage Officers to verify

they are really maintaining their current status and do not warrant an intra-hospital transfer or discharge.

As the ED Triage Officer makes admission recommendations for ED patients, the Triage Committee assigned to the ED will receive immediate notification. The Triage Committee will evaluate each ED patient as they receive the notification and determine the patient's disposition based on the prioritization criteria (refer to list below). This disposition will identify: (i) whether the patient should be admitted, and if so, to which care pod; or (ii) whether the patient should be evaluated for alternative care options; or (iii) whether the patient should be discharged.

Admit, transfer, and discharge orders will be sent out from the Triage Committee as decisions are made. Decisions made by the Triage Committee are final. Non-compliance by any physician or staff member of [hospital] will result in appropriate sanctions as determined by [hospital] Administration.

Patient Workbench Reports

There will be two Patient Workbench Reports generated through the electronic medical record to assist the Triage Committee in its evaluation process. The Triage Committee will always have the option to review the full patient chart in electronic medical record for more information, however, these Workbench Reports should provide the information needed to make the admission, transfer, and discharge decisions.

ED Patient Workbench Report

The ED Patient Workbench Report will be populated with all patients who have an admit recommendation from the Triage Officer in the ED. Patients will be automatically and immediately added to this report once the Triage Officer recommends the admission. The following data fields will be pulled directly from the patient charts:

- | | |
|-----------------------|---|
| ◆ Patient Name | ◆ Medical History |
| ◆ EMR # | ◆ Surgical History |
| ◆ Age | ◆ Previous ED Visits |
| ◆ Chief Complaint | ◆ Home Meds |
| ◆ Admitting Diagnosis | ◆ Hospital Meds (including delivery method) |
| ◆ Code Status | ◆ O ₂ Status |
| ◆ Admit To | ◆ Neurological Status |
| ◆ Admitting MD | ◆ OR Plan |
| ◆ Admitting Service | ◆ Abnormal lab values, radiographic results, and/or vitals (as appropriate) |

Inpatient Workbench Report

The Inpatient Workbench Report will be populated with all inpatients based on the re-evaluation timeframes determined by the Triage Officers during the last evaluation of the patient. This report will be generated every 6 hours and given to the Triage Committee for evaluation. The following data fields will be pulled directly from the patient charts:

- ◆ Patient Name
- ◆ EMR #
- ◆ Age
- ◆ Admitting Diagnosis
- ◆ Hospital LOS
- ◆ Current Unit LOS
- ◆ Location
- ◆ Level of Care
- ◆ Patient's General Status Trend
- ◆ Does the patient meet exclusion criteria?
- ◆ Does the patient meet inclusion criteria?
- ◆ Re-evaluation period
- ◆ Recommended Disposition
- ◆ Ambulatory vs. Non-Ambulatory
- ◆ Expected Discharge Date
- ◆ Attending MD
- ◆ Service
- ◆ Medical History
- ◆ Surgical History
- ◆ Home Meds
- ◆ Hospital Meds (including delivery method)
- ◆ O₂ Status
- ◆ Neurological Status
- ◆ OR Plan
- ◆ Abnormal lab values, radiographic results, and/or vitals (as appropriate)

Patient Evaluation Criteria

Inclusion Criteria

The Triage Officers will evaluate each patient to determine his eligibility for inpatient hospital admission using the following inclusion criteria. A patient should have a treatment plan which requires hospital resources to be considered “eligible” for inpatient hospital admission. The Triage Officers will also evaluate the patient for the following criteria to support their decision to recommend the patient for admission to the Triage Committee:

- ◆ Stabilization treatment requiring greater than 24 hours of care with intervention and a patient that does not meet criteria for an observation/clinical decision unit
- ◆ Critically abnormal laboratory values
- ◆ Abnormal vital signs (blood pressure, pulse, temperature, oxygen saturation level, pain)
- ◆ Abnormal EKG or other diagnostic test indicative of cardiac function
- ◆ Abnormal neurological status (based on the Glasgow Coma Score)
- ◆ Abnormal diagnostic imaging results requiring immediate intervention

- ◆ Trauma involving any one of the abnormal values listed above

Exclusion Criteria⁵

The Triage Officers will evaluate each patient to determine his eligibility for inpatient hospital admission using the following exclusion criteria. If a patient meets at least one of these exclusion criteria, he will be considered “ineligible” for inpatient hospital admission and will be evaluated for alternative care.

- ◆ Severe and irreversible chronic neurologic condition with persistent coma or vegetative state.
- ◆ Acute severe neurologic event with minimal change of functional neurologic recovery (physician judgment). Includes traumatic brain injury, severe hemorrhagic stroke, hypoxic ischemic brain injury, and intracranial hemorrhage.
- ◆ Severe acute trauma with a Revised Trauma Score < 2 for patients aged 0-69 years and <3 for patients aged ≥ 70 years.
- ◆ Severe burns with <50% anticipated survival (patients identified as “medium” or worse on the Triage Decision Table for Burn Victims).
- ◆ Advanced untreatable neuromuscular disease (such as ALS, end-stage MS, or SMA) requiring assistance with activities of daily living or requiring chronic ventilatory support.
- ◆ Known chromosomal or untreatable disorders that are uniformly fatal in the first 2 years of life.
- ◆ Incurable metastatic malignant disease.
- ◆ End-stage organ failure meeting the following criteria:
 - Heart: New York Heart Association (NYHA) Functional Classification System Class IV.
 - Lung (any of the following):
 - Chronic Obstructive Pulmonary Disease (COPD) with Forced Expiratory Volume in one second (FEV₁) <25% predicted baseline, PaO₂ <55 mm Hg, or severe secondary pulmonary hypertension.
 - Cystic fibrosis with post-bronchodilator FEV₁ <30% or baseline PaO₂ <55 mm Hg.
 - Pulmonary fibrosis with VC or TLC < 60% predicted, baseline PaO₂ < 55 mm Hg, or severe secondary pulmonary hypertension.
 - Primary pulmonary hypertension with NYHA class IV heart failure, right atrial pressure > 10 mm Hg, or mean pulmonary arterial pressure > 50 mm Hg.
 - Liver: Pugh Score > 7, when available. Includes bili, albumin, INR, ascites, encephalopathy.

⁵ This list is adapted from the exclusion criteria for hospital admission published by the Utah Department of Health (Utah Department of Health (Aug 2008) “Utah Pandemic Influenza Hospital and ICU Triage Guidelines.” <http://www.uha-utah.org/Disaster%20Prep%20Materials/PANDEMIC%20FLU%20TRIAGE%202008-12-08.pdf> (last visited March 9, 2009)).

- ◆ Age:
 - Triage Level 1 (as determined by Incident Command): >90 years
 - Triage Level 2 (as determined by Incident Command): >85 years
 - Triage Level 3 (as determined by Incident Command): >80 years

Prioritization Criteria

The Triage Committee will evaluate each patient to determine his disposition using the following prioritization criteria.

- ◆ Life saving treatment and good prognosis for discharge in patient's "normal" state or better
- ◆ Patient's condition is curable and the treatment is curative
- ◆ Treatment will stabilize an acute condition and return the patient to their "normal" state or better
- ◆ Treatment that provides significant medical improvement with a low resource consumption
- ◆ Short duration treatment that provides significant medical improvement with a high resource consumption

Definition of Care Pods

As of the effective date of this Admission Protocol⁶, there are three levels of care at [hospital]: (i) medical/surgical, (ii) stepdown, and (iii) critical care. During a CRSE, these three levels will continue (although with a slightly different definition of care) and two additional "Care Pods" will be added.

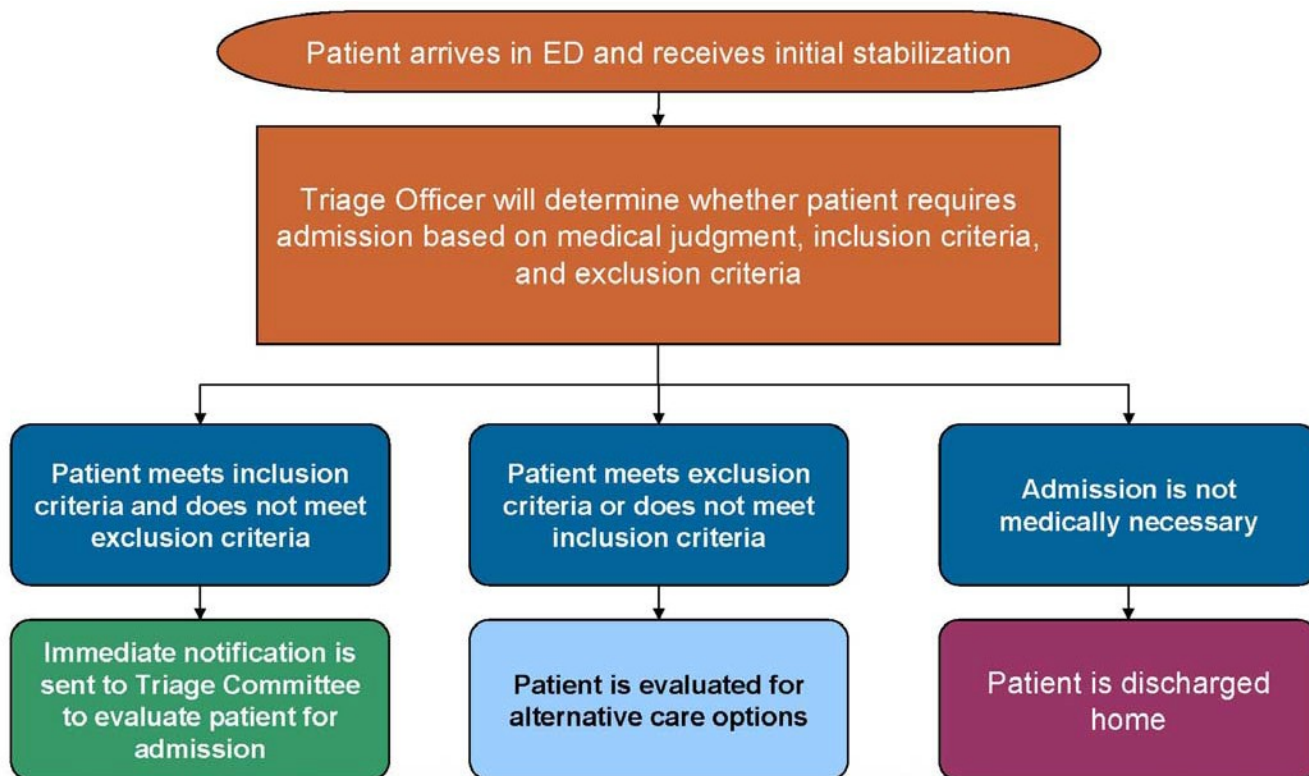
- ◆ Supportive Care Pod: This is a new Care Pod that will be activated during a CRSE. Each Supportive Care Pod will be staffed with one RN who is supported by nursing assistants and LPNs. These pods will provide care at a lower level than med/surg including, but not limited to: comfort care; intermediate care; assistance with activities of daily living; nursing care; hospice care; and other curative/therapeutic care at a lower level than med/surg. Some of the patients in these Supportive Care Pods may reside in nursing homes during "normal" time or have no support system if they were discharged home.
- ◆ Med/Surg Care Pod: This Care Pod will be similar to the med/surg units at [hospital] today. Staffing will be similar to "normal" times, although diminished from normal levels. Targeted nurse-to-patient ratios will be 1:12 which is substantially higher than "normal" but will be required by expected higher than normal absenteeism.

⁶ Revisions to this Protocol should be considered whenever associated hospital policies are revised.

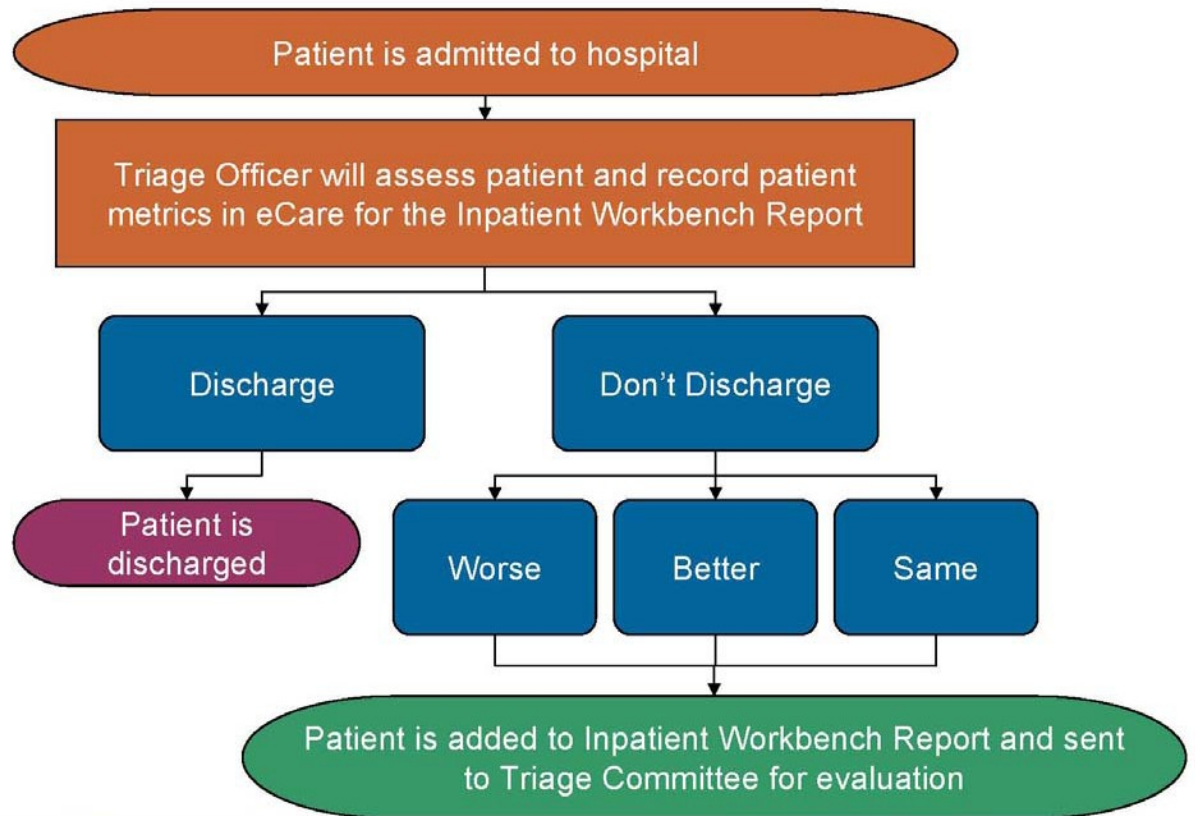
- ◆ Stepdown Care Pod: This Care Pod will be similar to the stepdown units at [hospital] today. Staffing will be similar to “normal” times, although diminished from normal levels. Targeted nurse-to-patient ratios will be 1:8 which is substantially higher than “normal” but will be required by expected higher than normal absenteeism
- ◆ Critical Care Pod: This Care Pod will be similar to the critical care units at [hospital] today. Staffing will be similar to “normal” times, although diminished from normal levels. Targeted nurse-to-patient ratios will be 1:4 which is substantially higher than “normal” but will be required by expected higher than normal absenteeism. If the number of ventilated patients exceeds the number of critical care beds at [hospital], all patients in the critical care pod must be on a ventilator.
- ◆ Self Care Pod: This is a new Care Pod that will be activated during a CRSE. Each Self Care Pod will be staffed with one nurse manager who is supported by non-licensed personnel such as nursing care partners. These Self Care Pods will provide curative/therapeutic care at a lower level than med/surg, including, but not limited to: monitoring of patient vitals (no telemetry), periodic breathing treatments, portable oxygen, oral pain medications, IV antibiotics, sub-Q insulin. Some of the patients in these Self Care Pods may simply be waiting for laboratory and/or test results. All patients must be ambulatory to be eligible for a bed in a Self Care Pod.

Inpatient Bed Allocation Flowcharts

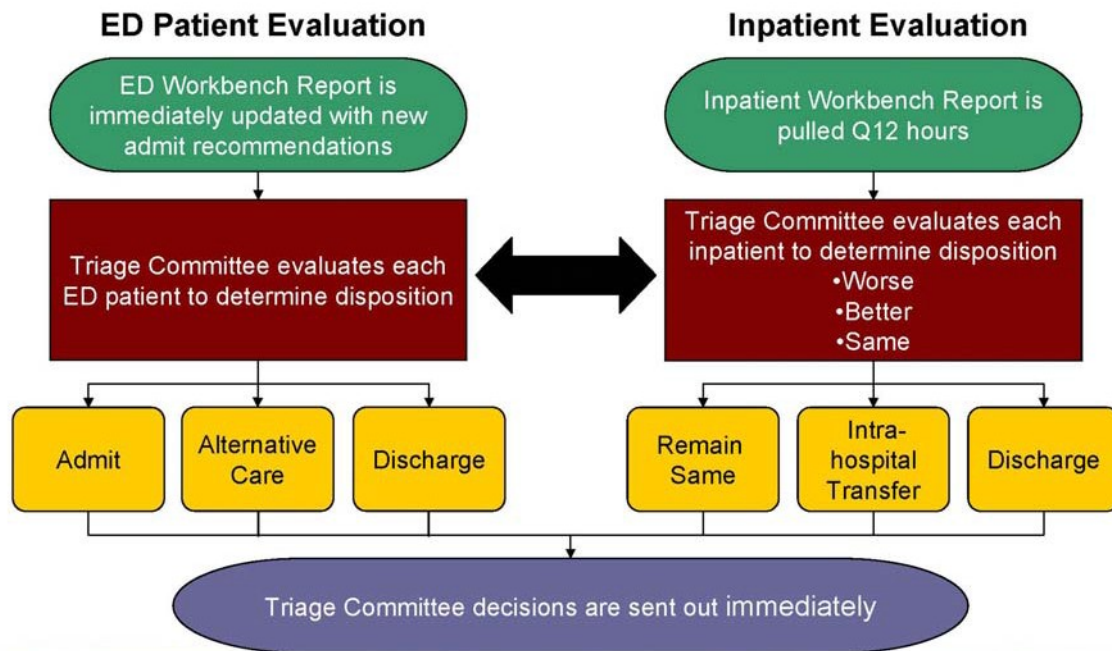
ED Patient Evaluation



Inpatient Evaluation



Triage Committee Process



PROTOCOL TO MODIFY RRT WORKFLOW DURING A CRITICAL RESOURCE SHORTAGE EVENT

Overview

During a large-scale emergency or disaster such as an influenza pandemic, there may be a higher than normal demand for ventilator care and a high level of staff absenteeism. Combined, these two factors will stress the ability of [hospital] to provide ventilator care consistent with current practices. [Hospital] has a robust inventory of ventilators and may have enough to provide a machine to each patient in need during an influenza pandemic or other similar event. The key constraint on the ability to deliver ventilator care will probably be the availability of Registered Respiratory Therapists (RRTs) to provide care to all of these mechanically ventilated patients.⁷ This scarcity of resources is referred to as a critical resource shortage event (CRSE). The Critical Resource Advisory Group (CRAG) Ventilator Subcommittee has developed this “Protocol to Modify RRT Workflow During a Critical Resource Shortage Event” (“RRT Protocol”) to describe modifications to ventilator care practices to allow fewer RRTs to care for more ventilator patients during an influenza pandemic or other similar CRSE.

As of the effective date of this RRT Protocol⁸, the respiratory department at [hospital] uses procedure counts to assign the RRT workload for each shift. Each ventilator patient receives a procedure count of three for the tasks associated with taking care of the ventilator (vent checks, patient assessments, weaning evaluation, and weaning). Procedure counts are assigned for other RRT tasks as well, including breathing treatments; transportation of patients between departments for procedures or imaging (“road trips”); and MRT, Code Team and ED coverage. The goal is to assign a total procedure count of 20-25 to each RRT for their shift. This procedure count could include up to six ventilator patients, breathing treatments, road trips, and care for non-ventilated patients.

The Ventilator Subcommittee of the CRAG identified ways to modify how RRTs provide care to ventilator patients to reduce the number of procedure counts for each ventilated patient. As a result, RRTs will be able to provide care to a greater number of ventilated patients while maintaining a sustainable workload. This RRT Protocol consists of two tiers which are designed to allow modification of RRT practices in response to increasingly severe critical resource shortages.

This RRT Protocol only addresses methods for modifying the tasks performed by an RRT for ventilated patients. If the CRSE lasts for a long period of time and is significantly severe, these modifications may not be enough to allow [hospital] to meet all of the demand for

⁷ For the purposes of this Protocol, “ventilator” or “ventilated” patients refers to mechanically ventilated patients only.

⁸ Revisions to this Protocol should be considered whenever associated respiratory policies are revised.

mechanical ventilation. If this occurs, [hospital] will need to allocate ventilators based on an allocation protocol that has yet to be developed.⁹

Activation of this RRT Protocol

The decision to activate this RRT Protocol should not be made lightly. The modifications contained herein represent substantial changes from how RRTs operate during “normal” times. Activation of this RRT Protocol should, therefore, be done only after implementation of surge plans have been exhausted.

The following chart provides (i) the “red flag” signaling that activation of a subsequent tier may be appropriate¹⁰, (ii) the procedure count goal for each tier, and (iii) the maximum number of procedure counts that can be sustained for a specified duration at each tier.

Tier	Red flag to consider moving to this tier of care	Goal for procedure counts per RRT per shift at this tier of care	Maximum procedure counts per RRT per shift at this tier of care
“Normal”	N/A	20-25	35
Modification A	> 25 procedure counts per RRT per shift at “normal”	25-35	45 for 2 days
Modification B	> 35 procedure counts per RRT per shift at Modification A	25-35	45 for 3 days
Allocation	> 45 procedure counts per RRT per shift for more than 3 days at Modification B	Allocate ventilators to move back to 25-35 procedure counts per RRT per shift providing care at Modification B	N/A

The information in the chart above is only a “red flag” to signal the need to begin considering a move to the next tier of care. Reaching these thresholds does not mean that the next tier is automatically activated. The Respiratory Department Leadership will continually monitor the situation and once the average procedure counts per RRT reaches one of the red flags, the RRT Team Lead for that shift will also evaluate the following factors:

- ◆ Average ventilator procedure counts per RRT per shift
- ◆ Total average procedure counts per RRT per shift (includes all respiratory care, not just ventilator counts)
- ◆ Location of patients within [hospital]
- ◆ Duration at current capacity

⁹ The time constraints of the CDC Grant Project did not allow for creation of this allocation protocol. A separate team at [hospital] may consider engaging in a process to draft this protocol and complete the respiratory department’s planning to respond to a Critical Resource Shortage of Ventilators.

¹⁰ Discussion regarding activation of a subsequent tier encompasses activation of this Protocol when moving from “normal” to Modification A.

- ◆ Ability to sustain current workload
- ◆ Distribution of patients across acuity levels
- ◆ Availability of RRTs in the near future (more, less, same)
- ◆ Status of other resources and departments throughout the hospital

Once the RRT Team Lead determines there is a need for activating the next tier, she will communicate this to the department manager who will communicate with Incident Command. Incident Command will then evaluate the overall resource situation and the recommendation from the RRT Team Lead to determine whether to activate the next tier. If warranted, the Incident Commander will activate the next tier.

Assigning Acuity Levels

An RRT will be responsible for assessing each ventilator patient and assigning the appropriate respiratory acuity level when the RRT completes the initial settings for a newly vented patient. Each time an RRT performs a ventilator check on the patient thereafter, the RRT will re-assign the patient a respiratory acuity level. Respiratory acuity levels will be recorded in the electronic patient record, electronic medical record, so that all individuals providing care to the patient are aware of the patient's respiratory acuity level.

“Normal” RRT Workflow for Ventilated Patients

Acuity Level	Q4	Q8	Q12	Q24	RRT Vent Care Procedure Counts	Other Procedure Counts (As Ordered by Physicians)
1 – Long term vented patient in the hospital for another, non-respiratory condition; long term care patients	RRT: Vent check		RRT: Patient assessment	RRT: Weaning evaluation	3	RRT: Breathing Treatments; Road Trips
2 – Vented patient who meets criteria for weaning; low levels of respiratory support; minimal manipulation by RRT	RRT: Vent check		RRT: Patient assessment	RRT: Weaning evaluation	3	RRT: Breathing Treatments; Road Trips
3 – Vented patient who does not meet criteria for weaning; moderate levels of respiratory support; minimal manipulation by RRT	RRT: Vent check		RRT: Patient assessment	RRT: Weaning evaluation	3	RRT: Breathing Treatments; Road Trips
4 – Vented patient; high levels of respiratory support; high FIO ₂ ; high PEEP; requiring meds more than Q4; PF ratio lower than 100; active manipulation by RRT	RRT: Vent check		RRT: Patient assessment	RRT: Weaning evaluation	3	RRT: Breathing Treatments; Road Trips
5 – Unstable, crashing patient	Continuous care by RRT until patient stabilizes or codes					

NOTE: For all acuity levels, patient alarms are responded to as appropriate.



Modification A to RRT Workflow for Ventilated Patients

Acuity Level	Q4	Q8	Q12	Q24	RRT Vent Care Procedure Counts	Other Procedure Counts (As Ordered by Physicians)
1 – Long term vented patient in the hospital for another, non-respiratory condition; long term care patients				Critical Care Nurse: Vent check and patient assessment	0	Critical Care Nurse: Breathing treatments; Road trips*
2 – Vented patient who meets criteria for weaning; low levels of respiratory support; minimal manipulation by RRT			RRT: Vent check; patient assessment; weaning		2	Critical Care Nurse: Breathing treatments; Road trips*
3 – Vented patient who does not meet criteria for weaning; moderate levels of respiratory support; minimal manipulation by RRT		RRT: Vent check	RRT: Patient assessment; weaning evaluation		2	Critical Care Nurse: Breathing treatments RRT: Road trips to transport patient only
4 – Vented patient; high levels of respiratory support; high FIO ₂ ; high PEEP; requiring meds more than Q4; PF ratio lower than 100; active manipulation by RRT	RRT: Vent check		RRT: Patient assessment		3	RRT: Breathing treatments; Road trips to transport patient only
5 – Unstable, crashing patient	Continuous care by RRT for up to 60 minutes or until it is determined by entire care team that patient is not responding to initial interventions.					

* Assumes at least two clinical personnel (one of which is qualified to monitor the patient's airway) plus appropriate transport personnel are transporting the patient.

NOTE: For all acuity levels, patient alarms are responded to as appropriate.



Modification B to RRT Workflow for Ventilated Patients

Acuity Level	Q4	Q6	Q12	Q24	RRT Vent Care Procedure Counts	Other Procedure Counts (As Ordered by Physicians)
1 – Long term vented patient in the hospital for another, non-respiratory condition; long term care patients				Critical Care Nurse: Patient assessment; verification of vent settings	0	Critical Care Nurse: Breathing treatments; Road trips*
2 – Vented patient who meets criteria for weaning; low levels of respiratory support; minimal manipulation by RRT				RRT: Vent check; patient assessment; weaning^	2 for “on-shift” 0 for “off-shift”	Critical Care Nurse: Breathing treatments; Road trips*
3 – Vented patient who does not meet criteria for weaning; moderate levels of respiratory support; minimal manipulation by RRT			RRT: Vent check and patient assessment; weaning evaluation		1	Critical Care Nurse: Breathing treatments; Road trips*
4 – Vented patient; high levels of respiratory support; high FIO ₂ ; high PEEP; requiring meds more than Q4; PF ratio lower than 100; active manipulation by RRT		RRT: Vent check	RRT: Patient assessment		3	Critical Care Nurse: Breathing treatments RRT: Road trips to transport patient only
5 – Unstable, crashing patient	Patients will not be provided continuous care by an RRT. They will be provided only palliative care.					

* Assumes at least two clinical personnel (one of which is qualified to monitor the patient’s airway) plus appropriate transport personnel are transporting the patient.

^ Assumes nursing is checking on patient more frequently than RRT and will contact RRT if there is a concern about the patient’s respiratory status.

NOTE: For all acuity levels, patient alarms are responded to as appropriate.



Definitions of Care Processes

RRT Vent Check

<p>◆ Check and Record the following settings on ventilator:</p> <ul style="list-style-type: none"> ○ Time ○ Mode ○ Set Rate/ % MinVol ○ VT Target/ cc's/KgIBW ○ I-time Thigh/Tlow ○ PC (Phigh) ○ Press Support/ TRC% ○ FIO2/PEEP (Plow) ○ Insp / Exp Trigger ○ Rise Time (Pramp) 	<p>◆ Check and Record the following measurements:</p> <ul style="list-style-type: none"> ○ Plateau / Tot Peep ○ Peak / M.A.P. ○ Vt exh. ○ VE (total) ○ PF (meas. or set) ○ Rinsp (Peak-Plat / Iflow) ○ Cstat (Vt/Plat-Peep) ○ Total Rate ○ Secretions – sm med lg na ○ CASS (cc's or na) ○ Airway – Nights Cuff Press ETT____@_____ ○ Days Cuff Press ETT____@_____ ○ Sedation / Breath sounds
<p>◆ Check and Record the following alarms:</p> <ul style="list-style-type: none"> ○ Pressure: High / Low ○ Volume: (VE or Vt High / Low) ○ Rate: High / Low ○ Apnea Alarm sec ○ Backup f / Vt or PIP 	<p>◆ Check and Record the following arterial blood gases / non-invasive monitoring:</p> <ul style="list-style-type: none"> ○ Time ○ pH ○ PaCO2 / EtCO2 ○ PaO2 ○ BE / HCO3 ○ SaO2 / SpO2 ○ PaO2/FIO2 (P/F Ratio)

Critical Care Nurse Vent Check



<ul style="list-style-type: none">◆ Date◆ Time◆ Type of Ventilator◆ Mode◆ Set Volume◆ Set Respiratory Rate◆ Total Respiratory Rate◆ PEEP◆ Peak Inspiratory Pressure (PIP)	<ul style="list-style-type: none">◆ Check and Record the following alarms:<ul style="list-style-type: none">○ Pressure: High / Low○ Volume: (VE or Vt High / Low)○ Rate: High / Low○ Apnea Alarm sec○ Backup f / Vt or PIP
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RRT Patient Assessment

<p>◆ Fill out Patient Assessment Report:</p> <ul style="list-style-type: none">○ Identify current indications for mechanical ventilation○ Temp○ WBC's elevated?○ K outside 3.5-5?○ Cl outside 95-110?○ Na outside 135-145?○ Nutrition: none, oral, NG, Gut, or TPN○ Wean Trial Electrolytes○ Mg outside 1.8-3?○ Ca outside 8.5-11?○ PO4 not 2.5-4.5?○ CXR<ul style="list-style-type: none">InfiltratesAtelectasisEffusionETT @ correct depth?○ Current Meds<ul style="list-style-type: none">Diuretics?Sedatives?○ Cardio Pulmonary/Renal Status<ul style="list-style-type: none">HbHCT %Creat >4?BUN >50?	<p>◆ Review patient labs and x-rays</p>
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RRT Weaning Evaluation



<p>◆ Evaluate patient for weaning by completing the Wean Screening Form</p> <ul style="list-style-type: none">○ Heart rate 50-140 and no significant ventricular arrhythmias?○ Mean BP>60 and stable on low dose pressors? (i.e. Dopamine and Dobutamine <5ug/Kg/min)○ Sedation Score 0 to -1?○ FIO2 ≤ 50% and PEEP < 8?○ PaO2/FIO2 ≥ 150?○ pH 7.32-7.48?○ Can initiate spontaneous effort and not dyspneic on current support? <p>Attempted to correct variances within RC scope of practice</p>	<p>◆ Start wean protocol</p>
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INFRASTRUCTURE FOR THE DEVELOPMENT OF AD HOC PROTOCOLS DURING A CRITICAL RESOURCE SHORTAGE EVENT

Overview

During a large-scale emergency or disaster such as an influenza pandemic, there will likely be a higher than normal demand for inpatient hospital services and a high level of staff absenteeism. Combined, these two factors will stress the ability of [hospital] to provide care consistent with current practices. This scarcity of resources is referred to as a critical resource shortage event (CRSE).

[Hospital] is planning now to respond to these CRSEs by developing protocols to address expected shortages of certain critical resources such as Registered Respiratory Therapists (RRT) and inpatient beds. Given the vast number of critical resources used in healthcare today, however, [hospital] will not be able to develop protocols for all of the resources that may become scarce during an event nor can [hospital] foresee all such scarcities. Because [hospital] cannot develop protocols to address these resources prior to an event, it will have to develop protocols to address such scarcities in the midst of an event (“Ad Hoc Protocols”).

The Critical Resource Advisory Group (CRAG) at [hospital] developed this “Infrastructure for the Development of Ad Hoc Protocols During a Critical Resource Shortage Event” (“Ad Hoc Infrastructure”) to support the development, implementation and operationalization of Ad Hoc Protocols during a CRSE.

Identifying a Critical Resource Shortage Event

Throughout an emergency or disaster, Incident Command (IC) will monitor the resource situation at [hospital]. This monitoring will be accomplished through surveillance and reporting mechanisms as described in [hospital’s] Emergency Operations Plan (EOP). When a shortage of a critical resource is identified, the department responsible for managing this resource will evaluate the resource situation, investigate methods of responding to this shortage through surge plans, and ultimately report the imminent shortage to IC.¹¹ The report to IC should include detailed information in the following categories:

- ◆ **Status:** Current inventory and demand for the resource in the hospital. Does demand currently exceed the supply?
- ◆ **Forecast:** Expected future inventory and demand for the resource in the hospital. At what point will demand exceed supply?
- ◆ **Duration:** How long will demand exceed supply? Expectations for additional inventory of the resource or decrease in demand for the resource in the near future.
- ◆ **Magnitude:** To what extent does or will demand exceed supply? What is the burn rate of the resource?

¹¹ The relevant department might be materials management, nursing or a clinical department depending on the type of resource.

- ♦ Mitigation: Options that have been evaluated for obtaining additional supply of the resource or explanation of surge efforts that have already been taken. Information about future options or lack thereof for receiving additional supply of the resource.

Departments should not wait until they are completely out of a resource before contacting IC. The Ad Hoc Protocol Development Subcommittee (Subcommittee) will need some lead time to develop an Ad Hoc Protocol, so shortages should be reported as soon as possible.

IC will evaluate the information provided by the department to determine an appropriate response to the shortage. IC will likely already be aware of the developing situation based on standard reports from the department. This standard reporting will allow IC to quickly evaluate the situation and determine whether to activate a Subcommittee to develop an Ad Hoc Protocol.

Development of protocols is a time-consuming process and requires the focused attention of critical personnel for a significant period of time. IC should only activate a Subcommittee for development of an Ad Hoc Protocol when it is expected that the duration of the shortage will be long enough or the magnitude of the shortage great enough to justify committing this time and energy during a disaster. IC is encouraged to remember that some CRSEs can be handled through a simple directive from IC to modify practices or allocate resources; while others will require the activation of a Subcommittee to develop a more robust Ad Hoc Protocol.

Developing an Ad Hoc Protocol

After IC has determined it is appropriate to activate a Subcommittee to develop an Ad Hoc Protocol to respond to the resource shortage, IC will need to identify individuals to serve on the Subcommittee and provide them with general instructions for drafting the Ad Hoc Protocol. The exact composition of the Subcommittee and specific instructions will depend on the resource in question and cannot be determined until the CRSE occurs. This Ad Hoc Infrastructure provides general guidelines that IC can use and modify depending on the specific CRSE.

Composition of a Subcommittee

Each Subcommittee will be a small, multi-disciplinary group. The Subcommittee members should include those most knowledgeable about the resource in question and those who represent the end users of the resource. At least one member of each Subcommittee should be trained pre-event on [hospital's] Critical Resource Shortage Response Plan and able to serve as the facilitator for the group. Representatives from ethics, risk management, and the chaplaincy should be available as a resource to each Subcommittee while they are developing the content of an Ad Hoc Protocol.

Each Subcommittee should also have support staff to record decisions made by the Subcommittee. This record will allow for quick communication of the final Ad Hoc Protocol to IC and to the staff that will need to implement it. Additionally, the record will memorialize the Subcommittee's decision-making process which may be useful in the future to justify the Subcommittee's decisions.

Subcommittee Instructions

The simplest instruction for each Subcommittee is to develop an Ad Hoc Protocol for responding to the shortage of the critical resource in question. To ensure consistency and provide guidance to those who may not have developed such a Protocol before, IC should also provide some additional general instructions. More specific instructions will depend on the event and resource.

The following are the minimal suggested general instructions:

- ◆ IC will provide a time limit within which the Subcommittee must complete the Ad Hoc Protocol.
- ◆ The Subcommittee must use the ethical framework that has been adopted by [hospital] for responding to CRSE.
- ◆ The Subcommittee must use the operational infrastructure that has been adopted by [hospital] for responding to the CRSE.
- ◆ The Subcommittee should consider options for modifying practices first before allocating the resource.
- ◆ If modification is not appropriate or feasible, the Subcommittee should consider options for allocating the resource, including inclusion criteria, exclusion criteria, and prioritization criteria.
- ◆ The Ad Hoc Protocol should be easy to implement.
- ◆ The Subcommittee should consider developing tiers in the Protocol to respond to a progressively more severe CRSE.
- ◆ The Subcommittee should consider options for communicating the final Ad Hoc Protocol to staff.
- ◆ The Subcommittee should consider any metrics that can be used to determine when the CRSE has ended and how this will be communicated to staff.

Activating an Ad Hoc Protocol

After the Subcommittee develops the Ad Hoc Protocol, they will present it to IC for final approval. IC will continue to monitor the CRSE and determine the appropriate time to activate the Ad Hoc Protocol. At this time, the communication strategy developed by the Subcommittee will be used to distribute the Ad Hoc Protocol to appropriate personnel for implementation.

Coordination with Corporate Incident Command¹²

¹² [Hospital's] IC and Corporate IC will coordinate on more issues than just critical resource shortage response; however, this Ad Hoc Infrastructure is only focused on critical resource shortage response.

During an emergency or disaster, each facility will stand up their individual IC as needed. There will also be a corporate IC to coordinate the response among the facilities. Coordination of the response to a CRSE will begin when a facility IC identifies a shortage and notifies Corporate IC to determine if there are any options for acquiring additional inventory of the resource from another facility. This is likely part of the department's surge plan.

The facility IC will: (i) continue to update Corporate IC as Subcommittees are activated; (ii) send them a copy of the final Ad Hoc Protocol once it is developed; (iii) notify them when it becomes necessary to activate the Ad Hoc Protocol. Corporate IC will help coordinate Subcommittee efforts at multiple facilities to ensure processes are not duplicated and will share final Ad Hoc Protocols with other facilities for their reference.

This Critical Resource Shortage Response Plan is hereby approved and incorporated into [Hospital's] Emergency Operations Plan.

Created Date: **September 14, 2009**

Approved Date:

Approved By:

Effective Date:

Revision Date:



APPENDIX A: SNGH GRANT CRAG MEMBERS

John Agola, M.D.
Radiology
President, Medical Staff

Carl Hartman, M.D.
Cardiology

Elisabeth Bradfield
ED Nursing

Cheri Hinshelwood
Corporate Communications

Jennifer Burrows
VP Operations

Emma Inman
Corporate Communications

Valerie Carroll
BTU Nursing

Kathy Judge
Microbiology Lab

Cheryl Chambers
Resource Pool

Barbara Kelly
Transfusion Services

Paul Chidester, M.D.
VPMA

Barry Knapp, M.D.
ED

Kathy Colantuono
Emergency Planning

Bruce Lo, M.D.
Medical Director, ED

Frank Counselman, M.D.
ED

Thomas McCune, M.D.
Internal Medicine

Marissa Galicia-Castillo, M.D.
Palliative Care

Jacque Mitchell
Risk Management

Brenda Earley
NICU Nursing

Janet Moffett
Respiratory

Pete Parks



Chaplaincy

Ken Veazey
Chaplaincy

Vickie Roche
Respiratory

Stacey Vedros
ED Nursing

Dan Scungio
Lab Safety

Kim Warren
Med/Surg Director

Cynde Sisson
Cardiac Surgery Nursing

Carol Wilson
*Director, Ethics and Palliative Care
/Lab Serv*

Carolyn Soderberg
ED Nursing

Stephanie Spingarn, M.D.
Laboratory/Pathology

LouAnn Wyer
*Point of Care Pam Streetman
Surgical Services Nursing*

Ray Tahhan, M.D.
Transfusion Services

